

Claims Pending and Amended after First Office Action

1       1. (presently amended) An expandable hoop support for a flexible  
2       tube having a nominal opening and a target site having an  
3       unsupported aperture with an aperture size, comprising:

4               a. a preformed hoop composed of a coil of material  
5               disposed about a first axis which first axis is disposed  
6               to encircle and about a second axis to form a double coil  
7               having an outer diameter, and having memory retaining  
8               properties to urge said material into said double coil  
9               formed to match said flexible tube nominal opening; and  
10              b. cylindrical delivery means for constraining said coil  
11             in to a linear configuration wherein said deliver means  
12             and said coil are adapted for insertion inserted into  
13             said [[a]] flexible tube at a target site having an  
14             unsupported aperture size and said delivery means is then  
15             removed, said hoop will then reconfigure to said double  
16             coil configuration wherein said double coil outer  
17             diameter is configured to be larger than said target site  
18             unsupported aperture size and configured to urge said  
19             target site aperture to said flexible tube nominal  
20             opening.

1       2. (previously amended) The expandable hoop support of claim 1  
2       wherein said delivery means is a delivery tube arranged to fit  
3       within said coil.

1       3. (previously amended) The expandable hoop support of claim 1  
2       wherein said delivery means is a delivery tube arranged to fit over  
3       said coil.

1       4. (previously amended) The expandable hoop support of claim 1  
2       wherein said hoop comprises a stent.

1       5. (presently amended) A procedure for opening a coronary artery  
2       having a nominal opening size adjacent a target having at least a  
3       partial occlusion thereof, comprising the steps of:

- 4       a. providing a preformed hoop composed of a coil of  
5       material disposed about a first axis, said first axis  
6       being disposed to encircle and about a second axis to  
7       form a double coil having an outer diameter matching said  
8       nominal opening size, and having memory retaining  
9       properties to urge said material into said double coil;
- 10      b. providing a cylindrical delivery means for  
11       constraining said coil into a linear configuration;
- 12      c. inserting said hoop and said delivery means into an  
13       artery at said [[a]] target site having an unsupported  
14       aperture size less than said nominal opening size; and
- 15      d. removing said delivery means whereby said hoop remains  
16       in said artery to support said artery in an open position  
17       wherein said double coil outer diameter is larger than  
18       said target site unsupported aperture size and said  
19       double coin is configured to urge said target site

aperture to said nominal opening size.

1 6. (original) The procedure of claim 5 wherein said deliver means is  
2 a rod arranged to fit within said coil.

1 7. (previously amended) The procedure of claim 5 wherein said  
2 delivery means is a delivery tube arranged to fit over said coil.

1 8. (previously amended) The procedure of claim 5 wherein said step  
2 of inserting comprises the step of inserting said delivery means  
3 into a coronary artery.

1 9. (presently amended) A vessel support system for support of at  
2 least a partial occlusion target site in a vessel having adjacent  
3 regions with a nominal opening size, comprising:

4 a preformed hoop comprising a wire disposed about a first  
5 longitudinal axis in consecutive loops therealong, said wire and  
6 said first longitudinal axis being and further disposed about a  
7 second axis wherein said first axis is disposed in consecutive  
8 loops along said second axis and having an outer diameter matching  
9 said nominal opening size, wherein

10 said wire comprising a memory for hoop disposition about  
11 said second axis having an outer diameter is greater than a  
12 vessel target site aperture and sized to urge said aperture to  
13 said nominal opening size.

1       10. (previously added) The vessel support system of claim 9, further  
2       including

3               a delivery means for constraining said preformed loop second  
4       axis into a substantially linear configuration.

1       11. (previously added) The vessel support system of claim 9,  
2       wherein said wire comprises a multi-filar wire.

1       12. (new) The vessel support system of claim 9, further comprising  
2       non-uniform spacing along said second axis.

1       13. (new) The vessel support system of claim 12, wherein said non-  
2       uniform spacing is configured to provide an aperture of sufficient  
3       size to permit fluid flow to a vessel side branch.

1       14. (new) The procedure of claim 5, wherein said step of providing  
2       a preformed hoop includes the steps of:

3               determining an artery structure,  
4               preforming said hoop to match said structure, and  
5               instilling memory into said preformed hoop.

1       15. (new) The procedure of claim 14, wherein said step of providing  
2       a preformed hoop includes the step of providing an open space of  
3       sufficient size to permit fluid flow into an artery side branch.

1       16. (new) The procedure of claim 15, further including the step of

2 orienting said open space within said artery to align said open  
3 space with said artery side branch.

1 17.(new) The expandable hoop support of claim 1, wherein said  
2 preformed hoop is formed to comprise different spaces along said  
3 second axis.

1 18.(new) The expandable hoop support of claim 17, wherein said  
2 preformed loop is formed to have an open space therealong of a size  
3 sufficient to allow fluid to flow to a tube side branch, and being  
4 wider than adjacent spacing along said second axis.